

OIL SPILL SAMPLING BUOY

An InterOcean *SLICK SLEUTH*™ Environmental / Marine Product

- Autonomous
- Re-Usable
- Cost Effective
- Air-Deployable
- Rugged & Reliable
- USCG Certified Design

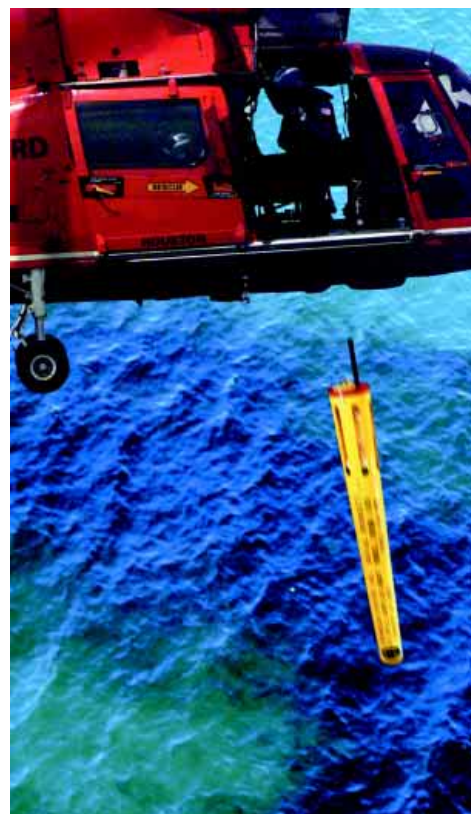
Application: InterOcean's Oil Spill Sample Buoy (OSSB's) is used to obtain immediate evidentiary samples of spilled oil in the ocean. Originally the OSSB was engineered for the USCG's Marine Safety Division. The innovative, robust, simple to use tool is typically deployed by aircraft that perform long-range pollution patrols or respond to reports of oil having been spotted or dumped offshore. This *slick sleuth* provides the fastest and safest possible method for obtaining uncontaminated samples, which can then be laboratory analyzed for use by law enforcement to "fingerprint" offending vessels and prosecute those responsible.

Deployment: The OSSB is deployed from the investigating vessel, helicopter or C130-type aircraft immediately upon arrival at the location of an identified spill. The OSSB is removed from its hermetically sealed encasement and "overboarded" into the slick/polluted water. Designed to withstand deployment from aircraft traveling 150 knots at an altitude of 200 feet, the OSSB utilizes drogue fins that insure proper flight, then detach themselves subsequent to the buoy entering the water. The buoy is precision-machined from aluminum, with an elongated lower end and robust end-caps designed to withstand both the shock of initial water impact, and extended marine operation. Components are fabricated using inert materials to eliminate the chance of contamination and preserve the integrity of the sample.

Once the buoy is deployed in the water, a salt-water switch triggers the power supply. The electronic control unit then initiates operation of a strobe light, and VHF radio beacon, enabling the deployment aircraft or vessel to verify proper operation of the recovery signaling system while on site. Approximately one minute later operation of the automated sampling system is initiated.

Sampling: The automated sample collection chamber is opened by a motorized drive that rotates the sample containment jar, freeing it from its cap, and exposing an absorbent material affixed inside the lid of the sampling jar. The material consists of oleoscopic and hydrophobic Teflon that absorbs hydrocarbon material, while allowing free passage of water. The buoy is ballasted so that the buoy's free-floating waterline is at the midpoint of a series of elongated water slots, allowing a free flow of water and oil to pass through the buoy and enter the sample collection chamber. The sample jar remains open- awash at oily-water level- for duration of one hour.

Recovery: Following the one-hour sampling cycle, the chamber reseals itself and engages the locking mechanism, thus preventing unauthorized access or tampering. The VHF radio signal allows the recovery party to pinpoint the buoy's location for retrieval by boat or aircraft, and the strobe light provides a visible target for nighttime retrieval. Alkaline "D" battery cells power the signaling system for a minimum of two weeks continuous operation, allowing the buoy to be recovered immediately following the sample collection cycle, or several weeks later (should circumstances like weather dictate). Once retrieved, the sample can be analyzed (using methods such as chromatography and mass spectroscopy) to match source samples taken from the alleged/offending vessel, providing incontrovertible evidence in either civil or criminal cases. For re-use, the OSSB is refitted with air deployment fins, a sterile sample containment jar, and fresh batteries (if necessary); then hermetically sealed in preparation for repeated use.



Typical Deployment Scenario



Dimensions:
4" diameter
48" length
27 lbs.



InterOcean systems, inc.

WWW.INTEROCEANSYSTEMS.COM sales@interoceansystems.com
3540 Aero Ct. San Diego, CA 92123 USA tel(858) 565 8400 fax(858)268 9695